



SEQUENCE LISTING

<110> Estell, David
Harding, Fiona

<120> PROTEINS PRODUCING AN ALTERED IMMUNOGENIC RESPONSE AND
METHODS OF MAKING AND USING THE SAME

<130> GC527C2

<140> US 09/677,822

<141> 2000-10-02

<150> US 09/500,135

<151> 2000-02-08

<150> US 09/060,872

<151> 1998-04-15

<160> 240

<170> PatentIn Ver. 2.1

<210> 1

<211> 1495

<212> DNA

<213> Bacillus amyloliquefaciens

<220>

<221> mat_peptide

<222> (417)..(1495)

<220>

<221> CDS

<222> (96)..(1244)

<220>

<221> misc_feature

<222> (582)..(584)

<223> The nnn at positions 582 through 584 which in a preferred embodiment (aat) is to code for asparagine, but which may also code for proline.

<220>

<221> misc_feature

<222> (585)..(587)

<223> The nnn at positions 585 through 587 which in a preferred embodiment (cct) is to code for proline, but which may also code for asparagine.

<220>

<221> misc_feature

<222> (597)..(599)

<223> The nnn at positions 597 to 599 which in a preferred embodiment (aac) is to code for asparagine, but which may also code for aspartic acid.

```

<220>
<221> misc_feature
<222> (678)..(680)
<223> The nnn at positions 678 through 680 which in a
      preferred embodiment (gca) is to code for
      alanine, but which may also code for serine.

<220>
<221> misc_feature
<222> (681)..(683)
<223> The nnn at positions 681 through 683 which in a
      preferred embodiment (tca) is to code for serine,
      but which may also code for alanine.

<220>
<221> misc_feature
<222> (708)..(710)
<223> The nnn at positions 708 through 710 which in a
      preferred embodiment (gct) is to code for
      alanine, but which may also code for aspartic acid.

<220>
<221> misc_feature
<222> (711)..(713)
<223> The nnn at positions 711 through 713 which in a
      preferred embodiment (gac) is to code for
      aspartic acid, but which may also code for alanine.

<220>
<221> misc_feature
<222> (888)..(890)
<223> The nnn at positions 888 through 890 which in a
      preferred embodiment (act) is to code for
      threonine, but which may also code for serine.

<220>
<221> misc_feature
<222> (891)..(893)
<223> The nnn at positions 891 through 893 which in a
      preferred embodiment (tcc) is to code for
      serine, but which may also code for threonine.

<220>
<221> misc_feature
<222> (1167)..(1169)
<223> The nnn at positions 1167 through 1169 which in
      a preferred embodiment (gaa) is to code for
      glutamic acid, but which may also code for glutamine.

<400> 1
ggctactaa aatattattc catactatac aattaataga cagaataatc tgtctattgg 60

ttattctgca aatgaaaaaa aggagaggat aaaga atg aga ggc aaa aaa gta    113
          Met Arg Gly Lys Lys Val
                      -105

tgg atc agt ttg ctg ttt gct tta gcg tta atc ttt acg atg gcg ttc    161

```

Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu Ile Phe Thr Met Ala Phe	
-100	-95 -90
ggc agc aca tcc tct gcc cag gcg gca ggg aaa tca aac ggg gaa aag	209
Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly Lys Ser Asn Gly Glu Lys	
-85	-80 -75 -70
aaa tat att gtc ggg ttt aaa cag aca atg agc acg atg agc gcc gct	257
Lys Tyr Ile Val Gly Phe Lys Gln Thr Met Ser Thr Met Ser Ala Ala	
	-65 -60 -55
aag aag aaa gat gtc att tct gaa aaa ggc ggg aaa gtg caa aag caa	305
Lys Lys Lys Asp Val Ile Ser Glu Lys Gly Gly Lys Val Gln Lys Gln	
	-50 -45 -40
ttc aaa tat gta gac gca gct tca gct aca tta aac gaa aaa gct gta	353
Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr Leu Asn Glu Lys Ala Val	
	-35 -30 -25
aaa gaa ttg aaa aaa gac ccg agc gtc gct tac gtt gaa gaa gat cac	401
Lys Glu Leu Lys Lys Asp Pro Ser Val Ala Tyr Val Glu Glu Asp His	
	-20 -15 -10
gta gca cat gcg tac gcg cag tcc gtg cct tac ggc gta tca caa att	449
Val Ala His Ala Tyr Ala Gln Ser Val Pro Tyr Gly Val Ser Gln Ile	
-5	-1 1 5 10
aaa gcc cct gct ctg cac tct caa ggc tac act gga tca aat gtt aaa	497
Lys Ala Pro Ala Leu His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys	
	15 20 25
gta gcg gtt atc gac agc ggt atc gat tct tct cat cct gat tta aag	545
Val Ala Val Ile Asp Ser Gly Ile Asp Ser Ser His Pro Asp Leu Lys	
	30 35 40
gta gca ggc gga gcc agc atg gtt cct tct gaa aca nnn nnn ttc caa	593
Val Ala Gly Gly Ala Ser Met Val Pro Ser Glu Thr Xaa Xaa Phe Gln	
	45 50 55
gac nnn aac tct cac gga act cac gtt gcc ggc aca gtt gcg gct ctt	641
Asp Xaa Asn Ser His Gly Thr His Val Ala Gly Thr Val Ala Ala Leu	
60	65 70 75
aat aac tca atc ggt gta tta ggc gtt gcg cca agc nnn nnn ctt tac	689
Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro Ser Xaa Xaa Leu Tyr	
	80 85 90
gct gta aaa gtt ctc ggt nnn nnn ggt tcc ggc caa tac agc tgg atc	737
Ala Val Lys Val Leu Gly Xaa Xaa Gly Ser Gly Gln Tyr Ser Trp Ile	
	95 100 105
att aac gga atc gag tgg gcg atc gca aac aat atg gac gtt att aac	785
Ile Asn Gly Ile Glu Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn	
	110 115 120
atg agc ctc ggc gga cct tct ggt tct gct gct tta aaa gcg gca gtt	833
Met Ser Leu Gly Gly Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val	

125	130	135	
gat aaa gcc gtt gca tcc ggc gtc gta gtc gtt gcg gca gcc ggt aac			881
Asp Lys Ala Val Ala Ser Gly Val Val Val Val Ala Ala Ala Gly Asn			
140	145	150	155
gaa ggc nnn nnn ggc agc tca agc aca gtg ggc tac cct ggt aaa tac			929
Glu Gly Xaa Xaa Gly Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr			
	160	165	170
cct tct gtc att gca gta ggc gct gtt gac agc agc aac caa aga gca			977
Pro Ser Val Ile Ala Val Gly Ala Val Asp Ser Ser Asn Gln Arg Ala			
	175	180	185
tct ttc tca agc gta gga cct gag ctt gat gtc atg gca cct ggc gta			1025
Ser Phe Ser Ser Val Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val			
	190	195	200
tct atc caa agc acg ctt cct gga aac aaa tac ggg gcg tac aac ggt			1073
Ser Ile Gln Ser Thr Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly			
	205	210	215
acg tca atg gca tct ccg cac gtt gcc gga gcg gct gct ttg att ctt			1121
Thr Ser Met Ala Ser Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu			
	220	225	230
tct aag cac ccg aac tgg aca aac act caa gtc cgc agc agt tta nnn			1169
Ser Lys His Pro Asn Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Xaa			
	240	245	250
aac acc act aca aaa ctt ggt gat tct ttc tac tat gga aaa ggg ctg			1217
Asn Thr Thr Thr Lys Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu			
	255	260	265
atc aac gta cag gcg gca gct cag taa aacataaaaa accggccttg			1264
Ile Asn Val Gln Ala Ala Ala Gln			
	270	275	
gccccgccgg ttttttttatt tttcttcctc cgcattgttca atccgctcca taatcgacgg 1324			
atggctccct ctgaaaattt taacgagaaa cggcggggttg acccggtcca gtcccgtaac 1384			
ggccaagtcc tgaaacgtct caatcgccgc ttcccgtttt ccggtcagct caatgccgta 1444			
acggtcggcg gcgttttctt gataccggga gacggcattc gtaatcggat c 1495			

<210> 2

<211> 382

<212> PRT

<213> Bacillus amyloliquefaciens

<220>

<221> VARIANT

<222> (163)...(163)

<223> Xaa = Asn or Pro

<220>
 <221> VARIANT
 <222> (164)...(164)
 <223> Xaa = Pro or Asn

<220>
 <221> VARIANT
 <222> (167)...(167)
 <223> Xaa = Asn or Asp

<220>
 <221> VARIANT
 <222> (195)...(195)
 <223> Xaa = Ala or Ser

<220>
 <221> VARIANT
 <222> (196)...(196)
 <223> Xaa = Ser or Ala

<220>
 <221> VARIANT
 <222> (205)...(205)
 <223> Xaa = Ala or Asp

<220>
 <221> VARIANT
 <222> (206)...(206)
 <223> Xaa = Asp or Ala

<220>
 <221> VARIANT
 <222> (265)...(265)
 <223> Xaa = Thr or Ser

<220>
 <221> VARIANT
 <222> (266)...(266)
 <223> Xaa = Ser or Thr

<220>
 <221> VARIANT
 <222> (358)...(358)
 <223> Xaa = Gln or Glu

<400> 2
 Met Arg Gly Lys Lys Val Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu
 1 5 10 15
 Ile Phe Thr Met Ala Phe Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly
 20 25 30
 Lys Ser Asn Gly Glu Lys Lys Tyr Ile Val Gly Phe Lys Gln Thr Met
 35 40 45
 Ser Thr Met Ser Ala Ala Lys Lys Lys Asp Val Ile Ser Glu Lys Gly
 50 55 60
 Gly Lys Val Gln Lys Gln Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr
 65 70 75 80
 Leu Asn Glu Lys Ala Val Lys Glu Leu Lys Lys Asp Pro Ser Val Ala

				85					90					95					
Tyr	Val	Glu	Glu	Asp	His	Val	Ala	His	Ala	Tyr	Ala	Gln	Ser	Val	Pro				
			100					105					110						
Tyr	Gly	Val	Ser	Gln	Ile	Lys	Ala	Pro	Ala	Leu	His	Ser	Gln	Gly	Tyr				
		115					120					125							
Thr	Gly	Ser	Asn	Val	Lys	Val	Ala	Val	Ile	Asp	Ser	Gly	Ile	Asp	Ser				
	130					135					140								
Ser	His	Pro	Asp	Leu	Lys	Val	Ala	Gly	Gly	Ala	Ser	Met	Val	Pro	Ser				
145					150					155					160				
Glu	Thr	Xaa	Xaa	Phe	Gln	Asp	Xaa	Asn	Ser	His	Gly	Thr	His	Val	Ala				
				165					170					175					
Gly	Thr	Val	Ala	Ala	Leu	Asn	Asn	Ser	Ile	Gly	Val	Leu	Gly	Val	Ala				
		180						185					190						
Pro	Ser	Xaa	Xaa	Leu	Tyr	Ala	Val	Lys	Val	Leu	Gly	Xaa	Xaa	Gly	Ser				
		195					200					205							
Gly	Gln	Tyr	Ser	Trp	Ile	Ile	Asn	Gly	Ile	Glu	Trp	Ala	Ile	Ala	Asn				
	210					215					220								
Asn	Met	Asp	Val	Ile	Asn	Met	Ser	Leu	Gly	Gly	Pro	Ser	Gly	Ser	Ala				
225					230					235					240				
Ala	Leu	Lys	Ala	Ala	Val	Asp	Lys	Ala	Val	Ala	Ser	Gly	Val	Val	Val				
				245					250					255					
Val	Ala	Ala	Ala	Gly	Asn	Glu	Gly	Xaa	Xaa	Gly	Ser	Ser	Ser	Thr	Val				
		260						265					270						
Gly	Tyr	Pro	Gly	Lys	Tyr	Pro	Ser	Val	Ile	Ala	Val	Gly	Ala	Val	Asp				
	275						280					285							
Ser	Ser	Asn	Gln	Arg	Ala	Ser	Phe	Ser	Ser	Val	Gly	Pro	Glu	Leu	Asp				
	290					295					300								
Val	Met	Ala	Pro	Gly	Val	Ser	Ile	Gln	Ser	Thr	Leu	Pro	Gly	Asn	Lys				
305					310					315					320				
Tyr	Gly	Ala	Tyr	Asn	Gly	Thr	Ser	Met	Ala	Ser	Pro	His	Val	Ala	Gly				
				325					330					335					
Ala	Ala	Ala	Leu	Ile	Leu	Ser	Lys	His	Pro	Asn	Trp	Thr	Asn	Thr	Gln				
			340					345					350						
Val	Arg	Ser	Ser	Leu	Xaa	Asn	Thr	Thr	Thr	Lys	Leu	Gly	Asp	Ser	Phe				
	355						360					365							
Tyr	Tyr	Gly	Lys	Gly	Leu	Ile	Asn	Val	Gln	Ala	Ala	Ala	Gln						
	370					375						380							

<210> 3

<211> 275

<212> PRT

<213> Bacillus amyloliquefaciens

<400> 3

Ala	Gln	Ser	Val	Pro	Tyr	Gly	Val	Ser	Gln	Ile	Lys	Ala	Pro	Ala	Leu				
1				5					10					15					
His	Ser	Gln	Gly	Tyr	Thr	Gly	Ser	Asn	Val	Lys	Val	Ala	Val	Ile	Asp				
		20						25					30						
Ser	Gly	Ile	Asp	Ser	Ser	His	Pro	Asp	Leu	Lys	Val	Ala	Gly	Gly	Ala				
	35					40						45							
Ser	Met	Val	Pro	Ser	Glu	Thr	Asn	Pro	Phe	Gln	Asp	Asn	Asn	Ser	His				
	50					55					60								

Gly Thr His Val Ala Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly
 65 70 75 80
 Val Leu Gly Val Ala Pro Ser Ala Ser Leu Tyr Ala Val Lys Val Leu
 85 90 95
 Gly Ala Asp Gly Ser Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu
 100 105 110
 Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly
 115 120 125
 Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala
 130 135 140
 Ser Gly Val Val Val Val Ala Ala Ala Gly Asn Glu Gly Thr Ser Gly
 145 150 155 160
 Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala
 165 170 175
 Val Gly Ala Val Asp Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Val
 180 185 190
 Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr
 195 200 205
 Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Ser
 210 215 220
 Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn
 225 230 235 240
 Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Glu Asn Thr Thr Thr Lys
 245 250 255
 Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala
 260 265 270
 Ala Ala Gln
 275

<210> 4
 <211> 275
 <212> PRT
 <213> Bacillus subtilis

<400> 4
 Ala Gln Ser Val Pro Tyr Gly Ile Ser Gln Ile Lys Ala Pro Ala Leu
 1 5 10 15
 His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys Val Ala Val Ile Asp
 20 25 30
 Ser Gly Ile Asp Ser Ser His Pro Asp Leu Asn Val Arg Gly Gly Ala
 35 40 45

Ser Phe Val Pro Ser Glu Thr Asn Pro Tyr Gln Asp Gly Ser Ser His
 50 55 60
 Gly Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly
 65 70 75 80
 Val Leu Gly Val Ser Pro Ser Ala Ser Leu Tyr Ala Val Lys Val Leu
 85 90 95
 Asp Ser Thr Gly Ser Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu
 100 105 110
 Trp Ala Ile Ser Asn Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly
 115 120 125
 Pro Thr Gly Ser Thr Ala Leu Lys Thr Val Val Asp Lys Ala Val Ser
 130 135 140
 Ser Gly Ile Val Val Ala Ala Ala Gly Asn Glu Gly Ser Ser Gly
 145 150 155 160
 Ser Thr Ser Thr Val Gly Tyr Pro Ala Lys Tyr Pro Ser Thr Ile Ala
 165 170 175
 Val Gly Ala Val Asn Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Ala
 180 185 190
 Gly Ser Glu Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr
 195 200 205
 Leu Pro Gly Gly Thr Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Thr
 210 215 220
 Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Thr
 225 230 235 240
 Trp Thr Asn Ala Gln Val Arg Asp Arg Leu Glu Ser Thr Ala Thr Tyr
 245 250 255
 Leu Gly Asn Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala
 260 265 270
 Ala Ala Gln
 275

<210> 5

<211> 274

<212> PRT

<213> Bacillus licheniformis

<400> 5

Ala Gln Thr Val Pro Tyr Gly Ile Pro Leu Ile Lys Ala Asp Lys Val
 1 5 10 15

Gln Ala Gln Gly Phe Lys Gly Ala Asn Val Lys Val Ala Val Leu Asp

20					25					30						
Thr	Gly	Ile	Gln	Ala	Ser	His	Pro	Asp	Leu	Asn	Val	Val	Gly	Gly	Ala	
35					40					45						
Ser	Phe	Val	Ala	Gly	Glu	Ala	Tyr	Asn	Thr	Asp	Gly	Asn	Gly	His	Gly	
50					55					60						
Thr	His	Val	Ala	Gly	Thr	Val	Ala	Ala	Leu	Asp	Asn	Thr	Thr	Gly	Val	
65					70					75					80	
Leu	Gly	Val	Ala	Pro	Ser	Val	Ser	Leu	Tyr	Ala	Val	Lys	Val	Leu	Asn	
85					90					95						
Ser	Ser	Gly	Ser	Gly	Ser	Tyr	Ser	Gly	Ile	Val	Ser	Gly	Ile	Glu	Trp	
100					105					110						
Ala	Thr	Thr	Asn	Gly	Met	Asp	Val	Ile	Asn	Met	Ser	Leu	Gly	Gly	Ala	
115					120					125						
Ser	Gly	Ser	Thr	Ala	Met	Lys	Gln	Ala	Val	Asp	Asn	Ala	Tyr	Ala	Arg	
130					135					140						
Gly	Val	Val	Val	Val	Ala	Ala	Ala	Gly	Asn	Ser	Gly	Asn	Ser	Gly	Ser	
145					150					155					160	
Thr	Asn	Thr	Ile	Gly	Tyr	Pro	Ala	Lys	Tyr	Asp	Ser	Val	Ile	Ala	Val	
165					170					175						
Gly	Ala	Val	Asp	Ser	Asn	Ser	Asn	Arg	Ala	Ser	Phe	Ser	Ser	Val	Gly	
180					185					190						
Ala	Glu	Leu	Glu	Val	Met	Ala	Pro	Gly	Ala	Gly	Val	Tyr	Ser	Thr	Tyr	
195					200					205						
Pro	Thr	Asn	Thr	Tyr	Ala	Thr	Leu	Asn	Gly	Thr	Ser	Met	Ala	Ser	Pro	
210					215					220						
His	Val	Ala	Gly	Ala	Ala	Ala	Leu	Ile	Leu	Ser	Lys	His	Pro	Asn	Leu	
225					230					235					240	
Ser	Ala	Ser	Gln	Val	Arg	Asn	Arg	Leu	Ser	Ser	Thr	Ala	Thr	Tyr	Leu	
245					250					255						
Gly	Ser	Ser	Phe	Tyr	Tyr	Gly	Lys	Gly	Leu	Ile	Asn	Val	Glu	Ala	Ala	
260					265					270						

Ala Gln

<210> 6

<211> 269

<212> PRT

<213> Bacillus lentus

<400> 6

Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala
 1 5 10 15
 His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp
 20 25 30
 Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
 35 40 45
 Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr
 50 55 60
 His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu
 65 70 75 80
 Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
 85 90 95
 Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala
 100 105 110
 Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser
 115 120 125
 Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
 130 135 140
 Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser
 145 150 155 160
 Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln
 165 170 175
 Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile
 180 185 190
 Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr
 195 200 205
 Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala
 210 215 220
 Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
 225 230 235 240
 Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu
 245 250 255
 Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
 260 265

<210> 7

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 7

Ile Lys Asp Phe His Val Tyr Phe Arg Glu Ser Arg Asp Ala Gly
1 5 10 15

<210> 8

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 8

Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val
1 5 10 15

<210> 9

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 9

Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala
1 5 10 15

<210> 10

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 10

Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn
1 5 10 15

<210> 11

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 11

Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly Leu

1 5 10 15

<210> 12
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 12
Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly Leu Thr Gly Ser
1 5 10 15

<210> 13
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 13
Ala Pro Ala Ala His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys
1 5 10 15

<210> 14
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 14
Ala His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val
1 5 10 15

<210> 15
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 15
Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr
1 5 10 15

<210> 16
<211> 15

<212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 16
 Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser
 1 5 10 15

 <210> 17
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 17
 Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser Thr His Pro
 1 5 10 15

 <210> 18
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 18
 Val Ala Val Leu Asp Thr Gly Ile Ser Thr His Pro Asp Leu Asn
 1 5 10 15

 <210> 19
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 19
 Leu Asp Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly
 1 5 10 15

 <210> 20
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

<400> 20
 Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
 1 5 10 15

<210> 21
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 21
 Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser Phe Val Pro
 1 5 10 15

<210> 22
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 22
 Asp Leu Asn Ile Arg Gly Gly Ala Ser Phe Val Pro Gly Glu Pro
 1 5 10 15

<210> 23
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 23
 Ile Arg Gly Gly Ala Ser Phe Val Pro Gly Glu Pro Ser Thr Gln
 1 5 10 15

<210> 24
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 24
 Gly Ala Ser Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn
 1 5 10 15

<210> 25
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 25
 Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly
 1 5 10 15

 <210> 26
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 26
 Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr His Val
 1 5 10 15

 <210> 27
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 27
 Ser Thr Gln Asp Gly Asn Gly His Gly Thr His Val Ala Gly Thr
 1 5 10 15

 <210> 28
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 28
 Asp Gly Asn Gly His Gly Thr His Val Ala Gly Thr Ile Ala Ala
 1 5 10 15

 <210> 29
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 <400> 29
 Gly His Gly Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn
 1 5 10 15

<210> 30
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 30
 Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly
 1 5 10 15

<210> 31
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 31
 Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly
 1 5 10 15

<210> 32
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 32
 Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro
 1 5 10 15

<210> 33
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 33

Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro Ser Ala Glu
 1 5 10 15

<210> 34
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 34
 Ser Ile Gly Val Leu Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala
 1 5 10 15

<210> 35
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 35
 Val Leu Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val
 1 5 10 15

<210> 36
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 36
 Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
 1 5 10 15

<210> 37
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 37
 Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser
 1 5 10 15

<210> 38

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 38
Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser Gly Ser Val
1 5 10 15

<210> 39
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 39
Val Lys Val Leu Gly Ala Ser Gly Ser Gly Ser Val Ser Ser Ile
1 5 10 15

<210> 40
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 40
Leu Gly Ala Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly
1 5 10 15

<210> 41
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 41
Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp
1 5 10 15

<210> 42
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 42

Gly	Ser	Val	Ser	Ser	Ile	Ala	Gln	Gly	Leu	Glu	Trp	Ala	Gly	Asn
1				5					10					15

<210> 43

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 43

Ser	Ser	Ile	Ala	Gln	Gly	Leu	Glu	Trp	Ala	Gly	Asn	Asn	Gly	Met
1				5					10					15

<210> 44

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 44

Ala	Gln	Gly	Leu	Glu	Trp	Ala	Gly	Asn	Asn	Gly	Met	His	Val	Ala
1				5					10					15

<210> 45

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 45

Leu	Glu	Trp	Ala	Gly	Asn	Asn	Gly	Met	His	Val	Ala	Asn	Leu	Ser
1					5				10					15

<210> 46

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 46

Ala	Gly	Asn	Asn	Gly	Met	His	Val	Ala	Asn	Leu	Ser	Leu	Gly	Ser
1					5					10				15

<210> 47
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 47
Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser Pro
1 5 10 15

<210> 48
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 48
His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser Pro Ser Ala Thr
1 5 10 15

<210> 49
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 49
Asn Leu Ser Leu Gly Ser Pro Ser Pro Ser Ala Thr Leu Glu Gln
1 5 10 15

<210> 50
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 50
Leu Gly Ser Pro Ser Pro Ser Ala Thr Leu Glu Gln Ala Val Asn
1 5 10 15

<210> 51
<211> 15
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 51

Pro Ser Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr
1 5 10 15

<210> 52

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 52

Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
1 5 10 15

<210> 53

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 53

Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val
1 5 10 15

<210> 54

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 54

Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val Val Ala Ala
1 5 10 15

<210> 55

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 55
Ser Ala Thr Ser Arg Gly Val Leu Val Val Ala Ala Ser Gly Asn
1 5 10 15

<210> 56
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 56
Ser Arg Gly Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala
1 5 10 15

<210> 57
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 57
Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile
1 5 10 15

<210> 58
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 58
Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser Tyr Pro
1 5 10 15

<210> 59
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 59
Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser Tyr Pro Ala Arg Tyr
1 5 10 15

<210> 60
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 60
 Ser Gly Ala Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala
 1 5 10 15

 <210> 61
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 61
 Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
 1 5 10 15

 <210> 62
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 62
 Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr
 1 5 10 15

 <210> 63
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 63
 Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln Asn
 1 5 10 15

 <210> 64
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 64
 Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln Asn Asn Asn Arg
 1 5 10 15

 <210> 65
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 65
 Met Ala Val Gly Ala Thr Asp Gln Asn Asn Asn Arg Ala Ser Phe
 1 5 10 15

 <210> 66
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 66
 Gly Ala Thr Asp Gln Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr
 1 5 10 15

 <210> 67
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 67
 Asp Gln Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly
 1 5 10 15

 <210> 68
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 68
 Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile

1 5 10 15

<210> 69
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 69
Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile Val Ala Pro
1 5 10 15

<210> 70
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 70
Ser Gln Tyr Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn
1 5 10 15

<210> 71
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 71
Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser
1 5 10 15

<210> 72
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 72
Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro
1 5 10 15

<210> 73
<211> 15

<212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 73
 Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr
 1 5 10 15

 <210> 74
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 74
 Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr Ala Ser
 1 5 10 15

 <210> 75
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 75
 Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Leu Asn Gly
 1 5 10 15

 <210> 76
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 76
 Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Leu Asn Gly Thr Ser Met
 1 5 10 15

 <210> 77
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

<400> 77
 Gly Ser Thr Tyr Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro
 1 5 10 15

<210> 78
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 78
 Tyr Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala
 1 5 10 15

<210> 79
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 79
 Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala Ala
 1 5 10 15

<210> 80
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 80
 Thr Ser Met Ala Thr Pro His Val Ala Gly Ala Ala Ala Leu Val
 1 5 10 15

<210> 81
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 81
 Ala Thr Pro His Val Ala Gly Ala Ala Ala Leu Val Lys Gln Lys
 1 5 10 15

<210> 82
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 82
Gly Val Ala Gly Ala Ala Ala Leu Val Lys Gln Lys Asn Pro Ser
1 5 10 15

<210> 83
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 83
Gly Ala Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn
1 5 10 15

<210> 84
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 84
Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
1 5 10 15

<210> 85
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 85
Lys Gln Lys Asn Pro Ser Trp Ser Val Asn Gln Ile Arg Asn His
1 5 10 15

<210> 86
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 86

Asn	Pro	Ser	Trp	Ser	Asn	Val	Gln	Ile	Arg	Asn	His	Leu	Lys	Asn
1				5					10					15

<210> 87

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 87

Trp	Ser	Asn	Val	Gln	Ile	Arg	Asn	His	Leu	Lys	Asn	Thr	Ala	Thr
1				5					10					15

<210> 88

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 88

Val	Gln	Ile	Arg	Asn	His	Leu	Lys	Asn	Thr	Ala	Thr	Ser	Leu	Gly
1				5					10					15

<210> 89

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 89

Arg	Asn	His	Leu	Lys	Asn	Thr	Ala	Thr	Ser	Leu	Gly	Ser	Thr	Asn
1				5					10					15

<210> 90

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 90

Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu Tyr Gly
 1 5 10 15

<210> 91
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 91
 Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu Tyr Gly Ser Gly Leu
 1 5 10 15

<210> 92
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 92
 Ser Leu Gly Ser Thr Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala
 1 5 10 15

<210> 93
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 93
 Ser Thr Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala
 1 5 10 15

<210> 94
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 94
 Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
 1 5 10 15

<210> 95

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 95
Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val
1 5 10 15

<210> 96
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 96
Pro Leu Arg Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His
1 5 10 15

<210> 97
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 97
Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His Ala Thr Gly
1 5 10 15

<210> 98
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 98
Leu Ser Leu Gly Ser Gly Phe Trp His Ala Thr Gly Arg His Ser
1 5 10 15

<210> 99
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 99

Gly	Ser	Gly	Phe	Trp	His	Ala	Thr	Gly	Arg	His	Ser	Ser	Arg	Arg
1				5				10					15	

<210> 100

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 100

Phe	Trp	His	Ala	Thr	Gly	Arg	His	Ser	Ser	Arg	Arg	Leu	Leu	Arg
1				5				10					15	

<210> 101

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 101

Ala	Thr	Gly	Arg	His	Ser	Ser	Arg	Arg	Leu	Leu	Arg	Ala	Ile	Pro
1				5				10					15	

<210> 102

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 102

Arg	His	Ser	Ser	Arg	Arg	Leu	Leu	Arg	Ala	Ile	Pro	Arg	Gln	Val
1				5				10					15	

<210> 103

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 103

Ser	Arg	Arg	Leu	Leu	Arg	Ala	Ile	Pro	Arg	Gln	Val	Ala	Gln	Thr
1				5				10					15	

<210> 104
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 104
Leu Leu Arg Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala
1 5 10 15

<210> 105
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 105
Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala Asp Val Leu
1 5 10 15

<210> 106
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 106
Arg Gln Val Ala Gln Thr Leu Gln Ala Asp Val Leu Trp Gln Met
1 5 10 15

<210> 107
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 107
Ala Gln Thr Leu Gln Ala Asp Val Leu Trp Gln Met Gly Tyr Thr
1 5 10 15

<210> 108
<211> 15
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 108

Leu	Gln	Ala	Asp	Val	Leu	Trp	Gln	Met	Gly	Tyr	Thr	Gly	Ala	Asn
1				5					10					15

<210> 109

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 109

Asp	Val	Leu	Trp	Gln	Met	Gly	Tyr	Thr	Gly	Ala	Asn	Val	Arg	Val
1				5					10					15

<210> 110

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 110

Trp	Gln	Met	Gly	Tyr	Thr	Gly	Ala	Asn	Val	Arg	Val	Ala	Val	Phe
1				5					10					15

<210> 111

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 111

Gly	Tyr	Thr	Gly	Ala	Asn	Val	Arg	Val	Ala	Val	Phe	Asp	Thr	Gly
1				5					10					15

<210> 112

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 112
 Gly Ala Asn Val Arg Val Ala Val Phe Asp Thr Gly Leu Ser Glu
 1 5 10 15

<210> 113
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 113
 Val Arg Val Ala Val Phe Asp Thr Gly Leu Ser Glu Lys His Pro
 1 5 10 15

<210> 114
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 114
 Ala Val Phe Asp Thr Gly Leu Ser Glu Lys His Pro His Phe Lys
 1 5 10 15

<210> 115
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 115
 Asp Thr Gly Leu Ser Glu Lys His Pro His Phe Lys Asn Val Lys
 1 5 10 15

<210> 116
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 116
 Leu Ser Glu Lys His Pro His Phe Lys Asn Val Lys Glu Arg Thr
 1 5 10 15

<210> 117
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 117
Lys His Pro His Phe Lys Asn Val Lys Glu Arg Thr Asn Trp Thr
1 5 10 15

<210> 118
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 118
His Phe Lys Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu Arg
1 5 10 15

<210> 119
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 119
Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp
1 5 10 15

<210> 120
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 120
Glu Arg Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu
1 5 10 15

<210> 121
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 <400> 121
 Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly
 1 5 10 15

<210> 122
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 122
 Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly Thr Phe Val
 1 5 10 15

<210> 123
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 123
 Thr Leu Asp Asp Gly Leu Gly His Gly Thr Phe Val Ala Gly Val
 1 5 10 15

<210> 124
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 124
 Asp Gly Leu Gly His Gly Thr Phe Val Ala Gly Val Ile Ala Ser
 1 5 10 15

<210> 125
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 125
 Gly His Gly Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu

1 5 10 15

<210> 126
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 126
Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly
1 5 10 15

<210> 127
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 127
Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro
1 5 10 15

<210> 128
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 128
Ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu
1 5 10 15

<210> 129
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 129
Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu Leu His Ile
1 5 10 15

<210> 130
<211> 15

<212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 130
 Cys Gln Gly Phe Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val
 1 5 10 15

 <210> 131
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 131
 Phe Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn
 1 5 10 15

 <210> 132
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 132
 Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val
 1 5 10 15

 <210> 133
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 133
 Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val Ser Tyr Thr
 1 5 10 15

 <210> 134
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

<400> 134
Phe Arg Val Phe Thr Asn Asn Gln Val Ser Tyr Thr Ser Trp Phe
1 5 10 15

<210> 135
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 135
Phe Thr Asn Asn Gln Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala
1 5 10 15

<210> 136
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 136
Asn Gln Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr
1 5 10 15

<210> 137
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 137
Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu
1 5 10 15

<210> 138
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 138
Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu Lys Lys Ile
1 5 10 15

<210> 139
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 139
Leu Asp Ala Phe Asn Tyr Ala Ile Leu Lys Lys Ile Asp Val Leu
1 5 10 15

<210> 140
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 140
Phe Asn Tyr Ala Ile Leu Lys Lys Ile Asp Val Leu Asn Leu Ser
1 5 10 15

<210> 141
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 141
Ala Ile Leu Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly
1 5 10 15

<210> 142
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 142
Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe
1 5 10 15

<210> 143
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 143
 Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His
 1 5 10 15

 <210> 144
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 144
 Asn Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His Pro Phe Val
 1 5 10 15

 <210> 145
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 145
 Ile Gly Gly Pro Asp Phe Met Asp His Pro Phe Val Asp Lys Val
 1 5 10 15

 <210> 146
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 146
 Pro Asp Phe Met Asp His Pro Phe Val Asp Lys Val Trp Glu Leu
 1 5 10 15

 <210> 147
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 147

Met Asp His Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn
 1 5 10 15

<210> 148
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 148
 Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile
 1 5 10 15

<210> 149
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 149
 Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile Met Val Ser
 1 5 10 15

<210> 150
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 150
 Trp Glu Leu Thr Ala Asn Asn Val Ile Met Val Ser Ala Ile Gly
 1 5 10 15

<210> 151
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 151
 Thr Ala Asn Asn Val Ile Met Val Ser Ala Ile Gly Asn Asp Gly
 1 5 10 15

<210> 152

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 152
Asn Val Ile Met Val Ser Ala Ile Gly Asn Asp Gly Pro Leu Tyr
1 5 10 15

<210> 153
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 153
Met Val Ser Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Ile
1 5 10 15

<210> 154
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 154
Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro
1 5 10 15

<210> 155
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 155
Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro Ala Asp Gln
1 5 10 15

<210> 156
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 156

Pro	Leu	Tyr	Gly	Thr	Leu	Asn	Asn	Pro	Ala	Asp	Gln	Met	Asp	Val
1				5				10						15

<210> 157

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 157

Gly	Thr	Leu	Asn	Asn	Pro	Ala	Asp	Gln	Met	Asp	Val	Ile	Gly	Val
1			5				10							15

<210> 158

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 158

Asn	Asn	Pro	Ala	Asp	Gln	Met	Asp	Val	Ile	Gly	Val	Gly	Gly	Ile
1			5				10							15

<210> 159

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 159

Ala	Asp	Gln	Met	Asp	Val	Ile	Gly	Val	Gly	Gly	Ile	Asp	Phe	Glu
1			5				10							15

<210> 160

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 160

Met	Asp	Val	Ile	Gly	Val	Gly	Gly	Ile	Asp	Phe	Glu	Asp	Asn	Ile
1			5				10							15

<210> 161
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 161
Ile Gly Val Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala Arg Phe
1 5 10 15

<210> 162
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 162
Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg
1 5 10 15

<210> 163
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 163
Asp Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr
1 5 10 15

<210> 164
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 164
Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp Glu
1 5 10 15

<210> 165
<211> 15
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 165

Ala	Arg	Phe	Ser	Ser	Arg	Gly	Met	Thr	Thr	Trp	Glu	Leu	Pro	Gly
1				5					10					15

<210> 166

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 166

Ser	Ser	Arg	Gly	Met	Thr	Thr	Trp	Glu	Leu	Pro	Gly	Gly	Tyr	Gly
1				5					10					15

<210> 167

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 167

Gly	Met	Thr	Thr	Trp	Glu	Leu	Pro	Gly	Gly	Tyr	Gly	Arg	Met	Lys
1				5					10					15

<210> 168

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 168

Thr	Trp	Glu	Leu	Pro	Gly	Gly	Tyr	Gly	Arg	Met	Lys	Pro	Asp	Ile
1				5					10					15

<210> 169

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 169
 Leu Pro Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr
 1 5 10 15

<210> 170
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 170
 Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly
 1 5 10 15

<210> 171
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 171
 Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly Val Arg Gly
 1 5 10 15

<210> 172
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 172
 Pro Asp Ile Val Thr Tyr Gly Ala Gly Val Arg Gly Ser Gly Val
 1 5 10 15

<210> 173
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 173
 Val Thr Tyr Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly
 1 5 10 15

<210> 174
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 174
Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala
1 5 10 15

<210> 175
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 175
Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly
1 5 10 15

<210> 176
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 176
Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val
1 5 10 15

<210> 177
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 177
Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val Ala Ser Pro
1 5 10 15

<210> 178
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 178
 Cys Arg Ala Leu Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala
 1 5 10 15

 <210> 179
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 179
 Leu Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val
 1 5 10 15

 <210> 180
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 180
 Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu
 1 5 10 15

 <210> 181
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 181
 Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr
 1 5 10 15

 <210> 182
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 182
 Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr Val Gln Lys

1 5 10 15

<210> 183
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 183
Gly Ala Val Thr Leu Leu Val Ser Thr Val Gln Lys Arg Glu Leu
1 5 10 15

<210> 184
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 184
Thr Leu Leu Val Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro
1 5 10 15

<210> 185
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 185
Val Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met
1 5 10 15

<210> 186
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 186
Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met Lys Gln Ala
1 5 10 15

<210> 187
<211> 15

<212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 187
 Arg Glu Leu Val Asn Pro Ala Ser Met Lys Gln Ala Leu Ile Ala
 1 5 10 15

 <210> 188
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 188
 Val Asn Pro Ala Ser Met Lys Gln Ala Leu Ile Ala Ser Ala Arg
 1 5 10 15

 <210> 189
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 189
 Ala Ser Met Lys Gln Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro
 1 5 10 15

 <210> 190
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

 <400> 190
 Lys Gln Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn
 1 5 10 15

 <210> 191
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic

<400> 191
 Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn Met Phe Glu
 1 5 10 15

<210> 192
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 192
 Ser Ala Arg Arg Leu Pro Gly Val Asn Met Phe Glu Gln Gly His
 1 5 10 15

<210> 193
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 193
 Arg Leu Pro Gly Val Asn Met Phe Glu Gln Gly His Gly Lys Leu
 1 5 10 15

<210> 194
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 194
 Gly Val Asn Met Phe Glu Gln Gly His Gly Lys Leu Asp Leu Leu
 1 5 10 15

<210> 195
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 195
 Met Phe Glu Gln Gly His Gly Lys Leu Asp Leu Leu Arg Ala Tyr
 1 5 10 15

<210> 196
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 196
 Gln Gly His Gly Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu
 1 5 10 15

<210> 197
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 197
 Gly Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr
 1 5 10 15

<210> 198
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 198
 Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro Gln
 1 5 10 15

<210> 199
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 199
 Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro Gln Ala Ser Leu
 1 5 10 15

<210> 200
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 200
Gln Ile Leu Asn Ser Tyr Lys Pro Gln Ala Ser Leu Ser Pro Ser
1 5 10 15

<210> 201
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 201
Asn Ser Tyr Lys Pro Gln Ala Ser Leu Ser Pro Ser Tyr Ile Asp
1 5 10 15

<210> 202
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 202
Lys Pro Gln Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu
1 5 10 15

<210> 203
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 203
Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr
1 5 10 15

<210> 204
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 204

Ser Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr Met Trp Pro
 1 5 10 15

<210> 205
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 205
 Tyr Ile Asp Leu Thr Glu Cys Pro Tyr Met Trp Pro Tyr Cys Ser
 1 5 10 15

<210> 206
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 206
 Leu Thr Glu Cys Pro Tyr Met Trp Pro Tyr Cys Ser Gln Pro Ile
 1 5 10 15

<210> 207
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 207
 Cys Pro Tyr Met Trp Pro Tyr Cys Ser Gln Pro Ile Tyr Tyr Gly
 1 5 10 15

<210> 208
 <211> 1052
 <212> PRT
 <213> Homo sapiens

<400> 208
 Met Lys Leu Val Asn Ile Trp Leu Leu Leu Val Val Leu Leu Cys
 1 5 10 15

Gly Lys Lys His Leu Gly Asp Arg Leu Glu Lys Lys Ser Phe Glu Lys
 20 25 30

Ala Pro Cys Pro Gly Cys Ser His Leu Thr Leu Lys Val Glu Phe Ser
 35 40 45

Ser Thr Val Val Glu Tyr Glu Tyr Ile Val Ala Phe Asn Gly Tyr Phe
 50 55 60
 Thr Ala Lys Ala Arg Asn Ser Phe Ile Ser Ser Ala Leu Lys Ser Ser
 65 70 75 80
 Glu Val Asp Asn Trp Arg Ile Ile Pro Arg Asn Asn Pro Ser Ser Asp
 85 90 95
 Tyr Pro Ser Asp Phe Glu Val Ile Gln Ile Lys Glu Lys Gln Lys Ala
 100 105 110
 Gly Leu Leu Thr Leu Glu Asp His Pro Asn Ile Lys Arg Val Thr Pro
 115 120 125
 Gln Arg Lys Val Phe Arg Ser Leu Lys Tyr Ala Glu Ser Asp Pro Thr
 130 135 140
 Val Pro Cys Asn Glu Thr Arg Trp Ser Gln Lys Trp Gln Ser Ser Arg
 145 150 155 160
 Pro Leu Arg Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His Ala
 165 170 175
 Thr Gly Arg His Ser Ser Arg Arg Leu Leu Arg Ala Ile Pro Arg Gln
 180 185 190
 Val Ala Gln Thr Leu Gln Ala Asp Val Leu Trp Gln Met Gly Tyr Thr
 195 200 205
 Gly Ala Asn Val Arg Val Ala Val Phe Asp Thr Gly Leu Ser Glu Lys
 210 215 220
 His Pro His Phe Lys Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu
 225 230 235 240
 Arg Thr Leu Asp Asp Gly Leu Gly His Gly Thr Phe Val Ala Gly Val
 245 250 255
 Ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu Leu
 260 265 270
 His Ile Phe Arg Val Phe Thr Asn Asn Gln Val Ser Tyr Thr Ser Trp
 275 280 285
 Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu Lys Lys Ile Asp Val Leu
 290 295 300
 Asn Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His Pro Phe Val Asp
 305 310 315 320
 Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile Met Val Ser Ala Ile
 325 330 335
 Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro Ala Asp Gln
 340 345 350

Met Asp Val Ile Gly Val Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala
 355 360 365
 Arg Phe Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Gly Gly Tyr
 370 375 380
 Gly Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly Val Arg Gly
 385 390 395 400
 Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val Ala
 405 410 415
 Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr Val Gln
 420 425 430
 Lys Arg Glu Leu Val Asn Pro Ala Ser Met Lys Gln Ala Leu Ile Ala
 435 440 445
 Ser Ala Arg Arg Leu Pro Gly Val Asn Met Phe Glu Gln Gly His Gly
 450 455 460
 Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro
 465 470 475 480
 Gln Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr
 485 490 495
 Met Trp Pro Tyr Cys Ser Gln Pro Ile Tyr Tyr Gly Gly Met Pro Thr
 500 505 510
 Val Val Asn Val Thr Ile Leu Asn Gly Met Gly Val Thr Gly Arg Ile
 515 520 525
 Val Asp Lys Pro Asp Trp Gln Pro Tyr Leu Pro Gln Asn Gly Asp Asn
 530 535 540
 Ile Glu Val Ala Phe Ser Tyr Ser Ser Val Leu Trp Pro Trp Ser Gly
 545 550 555 560
 Tyr Leu Ala Ile Ser Ile Ser Val Thr Lys Lys Ala Ala Ser Trp Glu
 565 570 575
 Gly Ile Ala Gln Gly His Val Met Ile Thr Val Ala Ser Pro Ala Glu
 580 585 590
 Thr Glu Ser Lys Asn Gly Ala Glu Gln Thr Ser Thr Val Lys Leu Pro
 595 600 605
 Ile Lys Val Lys Ile Ile Pro Thr Pro Pro Arg Ser Lys Arg Val Leu
 610 615 620
 Trp Asp Gln Tyr His Asn Leu Arg Tyr Pro Pro Gly Tyr Phe Pro Arg
 625 630 635 640
 Asp Asn Leu Arg Met Lys Asn Asp Pro Leu Asp Trp Asn Gly Asp His
 645 650 655

Ile His Thr Asn Phe Arg Asp Met Tyr Gln His Leu Arg Ser Met Gly
 660 665 670
 Tyr Phe Val Glu Val Leu Gly Ala Pro Phe Thr Cys Phe Asp Ala Ser
 675 680 685
 Gln Tyr Gly Thr Leu Leu Met Val Asp Ser Glu Glu Glu Tyr Phe Pro
 690 695 700
 Glu Glu Ile Ala Lys Leu Arg Arg Asp Val Asp Asn Gly Leu Ser Leu
 705 710 715 720
 Val Ile Phe Ser Asp Trp Tyr Asn Thr Ser Val Met Arg Lys Val Lys
 725 730 735
 Phe Tyr Asp Glu Asn Thr Arg Gln Trp Trp Met Pro Asp Thr Gly Gly
 740 745 750
 Ala Asn Ile Pro Ala Leu Asn Glu Leu Leu Ser Val Trp Asn Met Gly
 755 760 765
 Phe Ser Asp Gly Leu Tyr Glu Gly Glu Phe Thr Leu Ala Asn His Asp
 770 775 780
 Met Tyr Tyr Ala Ser Gly Cys Ser Ile Ala Lys Phe Pro Glu Asp Gly
 785 790 795 800
 Val Val Ile Thr Gln Thr Phe Lys Asp Gln Gly Leu Glu Val Leu Lys
 805 810 815
 Gln Glu Thr Ala Val Val Glu Asn Val Pro Ile Leu Gly Leu Tyr Gln
 820 825 830
 Ile Pro Ala Glu Gly Gly Gly Arg Ile Val Leu Tyr Gly Asp Ser Asn
 835 840 845
 Cys Leu Asp Asp Ser His Arg Gln Lys Asp Cys Phe Trp Leu Leu Asp
 850 855 860
 Ala Leu Leu Gln Tyr Thr Ser Tyr Gly Val Thr Pro Pro Ser Leu Ser
 865 870 875 880
 His Ser Gly Asn Arg Gln Arg Pro Pro Ser Gly Ala Gly Ser Val Thr
 885 890 895
 Pro Glu Arg Met Glu Gly Asn His Leu His Arg Tyr Ser Lys Val Leu
 900 905 910
 Glu Ala His Leu Gly Asp Pro Lys Pro Arg Pro Leu Pro Ala Cys Pro
 915 920 925
 Arg Leu Ser Trp Ala Lys Pro Gln Pro Leu Asn Glu Thr Ala Pro Ser
 930 935 940
 Asn Leu Trp Lys His Gln Lys Leu Leu Ser Ile Asp Leu Asp Lys Val
 945 950 955 960

Val Leu Pro Asn Phe Arg Ser Asn Arg Pro Gln Val Arg Pro Leu Ser
965 970 975

Pro Gly Glu Ser Gly Ala Trp Asp Ile Pro Gly Gly Ile Met Pro Gly
980 985 990

Arg Tyr Asn Gln Glu Val Gly Gln Thr Ile Pro Val Phe Ala Phe Leu
995 1000 1005

Gly Ala Met Val Val Leu Ala Phe Phe Val Val Gln Ile Asn Lys Ala
1010 1015 1020

Lys Ser Arg Pro Lys Arg Arg Lys Pro Arg Val Lys Arg Pro Gln Leu
1025 1030 1035 1040

Met Gln Gln Val His Pro Pro Lys Thr Pro Ser Val
1045 1050

<210> 209
<211> 280
<212> PRT
<213> Homo sapiens

<400> 209

Arg Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala Asp Val Leu
1 5 10 15

Trp Gln Met Gly Tyr Thr Gly Ala Asn Val Arg Val Ala Val Phe Asp
20 25 30

Thr Gly Leu Ser Glu Lys His Pro His Phe Lys Asn Val Lys Glu Arg
35 40 45

Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly
50 55 60

Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly Phe
65 70 75 80

Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln
85 90 95

Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu
100 105 110

Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe Met
115 120 125

Asp His Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val
130 135 140

Ile Met Val Ser Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu
145 150 155 160

Asn Asn Pro Ala Asp Gln Met Asp Val Ile Gly Val Gly Gly Ile Asp

	165		170		175										
Phe	Glu	Asp	Asn	Ile	Ala	Arg	Phe	Ser	Ser	Arg	Gly	Met	Thr	Thr	Trp
			180					185					190		
Glu	Leu	Pro	Gly	Gly	Tyr	Gly	Arg	Met	Lys	Pro	Asp	Ile	Val	Thr	Tyr
		195					200					205			
Gly	Ala	Gly	Val	Arg	Gly	Ser	Gly	Val	Lys	Gly	Gly	Cys	Arg	Ala	Leu
	210					215					220				
Ser	Gly	Thr	Ser	Val	Ala	Ser	Pro	Val	Val	Ala	Gly	Ala	Val	Thr	Leu
225					230					235					240
Leu	Val	Ser	Thr	Val	Gln	Lys	Arg	Glu	Leu	Val	Asn	Pro	Ala	Ser	Met
				245					250					255	
Lys	Gln	Ala	Leu	Ile	Ala	Ser	Ala	Arg	Arg	Leu	Pro	Gly	Val	Asn	Met
		260						265					270		
Phe	Glu	Gln	Gly	His	Gly	Lys	Leu								
		275					280								

<210> 210
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400>	210													
Gly	Ser	Ile	Ser	Tyr	Pro	Ala	Arg	Tyr	Ala	Asn	Ala	Met	Ala	Val
1				5					10					15

<210> 211
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400>	211													
Ala	Ser	Ile	Ser	Tyr	Pro	Ala	Arg	Tyr	Ala	Asn	Ala	Met	Ala	Val
1				5					10					15

<210> 212
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 212

Gly Ala Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 213

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 213

Gly Ser Ala Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 214

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 214

Gly Ser Ile Ala Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 215

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 215

Gly Ser Ile Ser Ala Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 216

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 216

Gly Ser Ile Ser Tyr Ala Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 217
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 217
Gly Ser Ile Ser Tyr Pro Ala Ala Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 218
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 218
Gly Ser Ile Ser Tyr Pro Ala Arg Ala Ala Asn Ala Met Ala Val
1 5 10 15

<210> 219
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 219
Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Ala Ala Met Ala Val
1 5 10 15

<210> 220
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 220
Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Ala Ala Val
1 5 10 15

<210> 221
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 221

Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Ala
1 5 10 15

<210> 222

<211> 15

<212> PRT

<213> Humicola insolens

<400> 222

Pro Gly Gly Val Ala Tyr Ser Cys Ala Asp Gln Thr Pro Trp Ala
1 5 10 15

<210> 223

<211> 15

<212> PRT

<213> Humicola insolens

<400> 223

Cys Gly Trp Ala Lys Lys Ala Pro Val Asn Gln Pro Val Phe Ser
1 5 10 15

<210> 224

<211> 276

<212> PRT

<213> Humicola insolens

<400> 224

Met Arg Ser Ser Pro Leu Leu Pro Ser Ala Val Val Ala Ala Leu Pro
1 5 10 15

Val Leu Ala Leu Ala Ala Asp Gly Arg Ser Thr Arg Tyr Trp Asp Cys
20 25 30

Cys Lys Pro Ser Cys Gly Trp Ala Lys Lys Ala Pro Val Asn Gln Pro
35 40 45

Val Phe Ser Cys Asn Ala Asn Phe Gln Arg Ile Thr Asp Phe Asp Ala
50 55 60

Lys Ser Gly Cys Glu Pro Gly Gly Val Ala Tyr Ser Cys Ala Asp Gln
65 70 75 80

Thr Pro Trp Ala Val Asn Asp Asp Phe Ala Leu Gly Phe Ala Ala Thr
85 90 95

Ser Ile Ala Gly Ser Asn Glu Ala Gly Trp Cys Cys Ala Cys Tyr Glu
100 105 110

Leu Thr Phe Thr Ser Gly Pro Val Ala Gly Lys Lys Met Val Val Gln

115	120	125
Ser Thr Ser Thr Gly Gly Asp Leu Gly Ser Asn His Phe Asp Leu Asn		
130	135	140
Ile Pro Gly Gly Gly Val Gly Ile Phe Asp Gly Cys Thr Pro Gln Phe		
145	150	155 160
Gly Gly Leu Pro Gly Gln Arg Tyr Gly Gly Ile Ser Ser Arg Asn Glu		
	165	170 175
Cys Asp Arg Phe Pro Asp Ala Leu Lys Pro Gly Cys Tyr Trp Arg Phe		
	180	185 190
Asp Trp Phe Lys Asn Ala Asp Asn Pro Ser Phe Ser Phe Arg Gln Val		
	195	200 205
Gln Cys Pro Ala Glu Leu Val Ala Arg Thr Gly Cys Arg Arg Asn Asp		
	210	215 220
Asp Gly Asn Phe Pro Ala Val Gln Ile Pro Ser Ser Ser Thr Ser Ser		
	225	230 235 240
Pro Val Asn Gln Pro Thr Ser Thr Ser Thr Thr Ser Thr Ser Thr Thr		
	245	250 255
Ser Ser Pro Pro Val Gln Pro Thr Thr Pro Ser Gly Cys Thr Ala Glu		
	260	265 270
Arg Trp Ala Gln		
275		

<210> 225
 <211> 18
 <212> PRT
 <213> Thermomyces lanuginosus

<400> 225
 Gly Asp Val Thr Gly Phe Leu Ala Leu Asp Asn Thr Asn Lys Leu Ile
 1 5 10 15
 Val Leu

<210> 226
 <211> 15
 <212> PRT
 <213> Thermomyces lanuginosus

<400> 226
 Ser Ile Glu Asn Trp Ile Gly Asn Leu Asn Phe Asp Leu Lys Glu
 1 5 10 15

<210> 227

<211> 291
 <212> PRT
 <213> Thermomyces lanuginosus

<400> 227

Met	Arg	Ser	Ser	Leu	Val	Leu	Phe	Phe	Val	Ser	Ala	Trp	Thr	Ala	Leu
1				5					10					15	
Ala	Ser	Pro	Ile	Arg	Arg	Glu	Val	Ser	Gln	Asp	Leu	Phe	Asn	Gln	Phe
			20					25					30		
Asn	Leu	Phe	Ala	Gln	Tyr	Ser	Ala	Ala	Ala	Tyr	Cys	Gly	Lys	Asn	Asn
		35					40					45			
Asp	Ala	Pro	Ala	Gly	Thr	Asn	Ile	Thr	Cys	Thr	Gly	Asn	Ala	Cys	Pro
	50					55					60				
Glu	Val	Glu	Lys	Ala	Asp	Ala	Thr	Phe	Leu	Tyr	Ser	Phe	Glu	Asp	Ser
65					70					75					80
Gly	Val	Gly	Asp	Val	Thr	Gly	Phe	Leu	Ala	Leu	Asp	Asn	Thr	Asn	Lys
				85					90					95	
Leu	Ile	Val	Leu	Ser	Phe	Arg	Gly	Ser	Arg	Ser	Ile	Glu	Asn	Trp	Ile
			100					105					110		
Gly	Asn	Leu	Asn	Phe	Asp	Leu	Lys	Glu	Ile	Asn	Asp	Ile	Cys	Ser	Gly
		115					120					125			
Cys	Arg	Gly	His	Asp	Gly	Phe	Thr	Ser	Ser	Trp	Arg	Ser	Val	Ala	Asp
	130					135					140				
Thr	Leu	Arg	Gln	Lys	Val	Glu	Asp	Ala	Val	Arg	Glu	His	Pro	Asp	Tyr
145					150					155					160
Arg	Val	Val	Phe	Thr	Gly	His	Ser	Leu	Gly	Gly	Ala	Leu	Ala	Thr	Val
				165					170					175	
Ala	Gly	Ala	Asp	Leu	Arg	Gly	Asn	Gly	Tyr	Asp	Ile	Asp	Val	Phe	Ser
			180					185					190		
Tyr	Gly	Ala	Pro	Arg	Val	Gly	Asn	Arg	Ala	Phe	Ala	Glu	Phe	Leu	Thr
	195						200					205			
Val	Gln	Thr	Gly	Gly	Thr	Leu	Tyr	Arg	Ile	Thr	His	Thr	Asn	Asp	Ile
	210					215					220				
Val	Pro	Arg	Leu	Pro	Pro	Arg	Glu	Phe	Gly	Tyr	Ser	His	Ser	Ser	Pro
225					230					235					240
Glu	Tyr	Trp	Ile	Lys	Ser	Gly	Thr	Leu	Val	Pro	Val	Thr	Arg	Asn	Asp
				245					250					255	
Ile	Val	Lys	Ile	Glu	Gly	Ile	Asp	Ala	Thr	Gly	Gly	Asn	Asn	Gln	Pro
			260					265					270		
Asn	Ile	Pro	Asp	Ile	Pro	Ala	His	Leu	Trp	Tyr	Phe	Gly	Leu	Ile	Gly

275

280

285

Thr Cys Leu
290

<210> 228

<211> 15

<212> PRT

<213> Streptomyces plicatus

<400> 228

Ile Lys Val Leu Leu Ser Val Leu Gly Asn His Gln Gly Ala Gly
1 5 10 15

<210> 229

<211> 313

<212> PRT

<213> Streptomyces plicatus

<400> 229

Met Phe Thr Pro Val Arg Arg Arg Val Arg Thr Ala Ala Leu Ala Leu
1 5 10 15

Ser Ala Ala Ala Ala Leu Val Leu Gly Ser Thr Ala Ala Ser Gly Ala
20 25 30

Ser Ala Thr Pro Ser Pro Ala Pro Ala Pro Ala Pro Val Lys
35 40 45

Gln Gly Pro Thr Ser Val Ala Tyr Val Glu Val Asn Asn Asn Ser Met
50 55 60

Leu Asn Val Gly Lys Tyr Thr Leu Ala Asp Gly Gly Gly Asn Ala Phe
65 70 75 80

Asp Val Ala Val Ile Phe Ala Ala Asn Ile Asn Tyr Asp Thr Gly Thr
85 90 95

Lys Thr Ala Tyr Leu His Phe Asn Glu Asn Val Gln Arg Val Leu Asp
100 105 110

Asn Ala Val Thr Gln Ile Arg Pro Leu Gln Gln Gln Gly Ile Lys Val
115 120 125

Leu Leu Ser Val Leu Gly Asn His Gln Gly Ala Gly Phe Ala Asn Phe
130 135 140

Pro Ser Gln Gln Ala Ala Ser Ala Phe Ala Lys Gln Leu Ser Asp Ala
145 150 155 160

Val Ala Lys Tyr Gly Leu Asp Gly Val Asp Phe Asp Asp Glu Tyr Ala
165 170 175

Glu Tyr Gly Asn Asn Gly Thr Ala Gln Pro Asn Asp Ser Ser Phe Val
180 185 190

His Leu Val Thr Ala Leu Arg Ala Asn Met Pro Asp Lys Ile Ile Ser
 195 200 205

Leu Tyr Asn Ile Gly Pro Ala Ala Ser Arg Leu Ser Tyr Gly Gly Val
 210 215 220

Asp Val Ser Asp Lys Phe Asp Tyr Ala Trp Asn Pro Tyr Tyr Gly Thr
 225 230 235 240

Trp Gln Val Pro Gly Ile Ala Leu Pro Lys Ala Gln Leu Ser Pro Ala
 245 250 255

Ala Val Glu Ile Gly Arg Thr Ser Arg Ser Thr Val Ala Asp Leu Ala
 260 265 270

Arg Arg Thr Val Asp Glu Gly Tyr Gly Val Tyr Leu Thr Tyr Asn Leu
 275 280 285

Asp Gly Gly Asp Arg Thr Ala Asp Val Ser Ala Phe Thr Arg Glu Leu
 290 295 300

Tyr Gly Ser Glu Ala Val Arg Thr Pro
 305 310

<210> 230
 <211> 15
 <212> PRT
 <213> Bacillus amyloliquefaciens

<400> 230
 Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val
 1 5 10 15

<210> 231
 <211> 15
 <212> PRT
 <213> Bacillus amyloliquefaciens

<400> 231
 Asn Gly Ile Glu Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn
 1 5 10 15

<210> 232
 <211> 15
 <212> PRT
 <213> Bacillus lentus

<400> 232
 Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser
 1 5 10 15

<210> 233

<211> 15
<212> PRT
<213> Bacillus lentus

<400> 233
Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser
1 5 10 15

<210> 234
<211> 17
<212> PRT
<213> Bacillus lentus

<400> 234
Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly
1 5 10 15

Ala

<210> 235
<211> 15
<212> PRT
<213> Bacillus lentus

<400> 235
Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser
1 5 10 15

<210> 236
<211> 272
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hybrid of
Bacillus lentus and Bacillus amyloliquefaciens

<400> 236
Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala
1 5 10 15

His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp
20 25 30

Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
35 40 45

Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr
50 55 60

His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu
65 70 75 80

Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
 85 90 95
 Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala
 100 105 110
 Gly Asn Asn Gly Met His Val Ile Asn Met Ser Leu Gly Gly Ser Gly
 115 120 125
 Ser Ala Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala Ser Gly Val
 130 135 140
 Val Val Val Ala Ala Ala Gly Asn Glu Gly Thr Ser Gly Ser Ser Ser
 145 150 155 160
 Thr Val Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala Val Gly Ala
 165 170 175
 Val Asp Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Val Gly Pro Glu
 180 185 190
 Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr Leu Pro Gly
 195 200 205
 Asn Lys Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Ser Pro His Val
 210 215 220
 Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn Trp Thr Asn
 225 230 235 240
 Thr Gln Val Arg Ser Ser Leu Glu Asn Thr Thr Thr Lys Leu Gly Asp
 245 250 255
 Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala Ala Ala Gln
 260 265 270

<210> 237
 <211> 15
 <212> PRT
 <213> Bacillus lentis subtilisin

<400> 237
 Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro
 1 5 10 15

<210> 238
 <211> 18
 <212> PRT
 <213> Bacillus lentis subtilisin

<400> 238
 Leu Glu Trp Ala Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu
 1 5 10 15
 Gly Ser

<210> 239
<211> 15
<212> PRT
<213> Bacillus amyloliquefaciens subtilisin

<400> 239
Val Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro
1 5 10 15

<210> 240
<211> 17
<212> PRT
<213> Bacillus amyloliquefaciens subtilisin

<400> 240
Ile Glu Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn Met Ser Leu
1 5 10 15
Gly